

22. (new) The reactor of claim 21 herein the one or more modules cover more than 90% of the horizontal cross-sectional area of the tank.

23. (new) The reactor of claim 21 wherein
g) the one or more modules are divided into elements, each element having a pair of opposed headers; and,
h) the elements are separated from each other by impervious plates; and,
i) channels are provided for water to flow vertically through the elements.

24. (new) The reactor of claim 23 wherein the elements have hollow fiber membranes oriented generally horizontally.

25. (new) The reactor of claim 21 wherein the inlet is located to add feed water to the tank from below the one or more modules.

26. (new) The reactor of claim 21 having aerators in the tank below the one or more modules.

27. (new) A process for filtering water comprising the steps of,
a) providing a filtering reactor as in any of claims 21 through 26; and,
b) in repeated cycles,
(i) permeating filtered water while adding a sufficient volume of feed water to the tank to keep the membranes submerged; and
(ii) performing a deconcentration step further comprising at least one or both of (A) providing a flow of feed water into the tank from below the modules or (B) backwashing the one or more membrane modules with a liquid comprising permeate, wherein excess water containing retained solids flows out of the retentate outlet.

28. (new) The process of claim 27 wherein the step of permeating is performed at a flux of less than 60 Liters per square meter per hour based on the surface area of the outside of the filtering membranes.

29. (new) The process of claim 28 wherein the step of permeating is performed at a flux of less than 40 Liters per square meter per hour based on the surface area of the outside of the filtering membranes.

30. (new) The process of claim 27 wherein permeation is stopped during the deconcentration step and the one or more modules are aerated while permeation is stopped during the deconcentration step.

31. (new) The process of claim 30 wherein the step of permeating is performed at a flux of less than 60 Liters per square meter per hour based on the surface area of the outside of the filtering membranes.